WATER SUPPLY OUTLOOK

KOOTENAI RIVER BASIN

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply for the Kootenai River drainage during the coming spring and summer months is expected to be about three-quarters of the 1943-57 average and about 12 percent less than last year.

Snow surveys made near the first of March in Canada and Montana show the mountain snow pack is 76 percent of last year and 65 percent of the 1943-57 average.

Report Prepared By:

P. E. Farnes
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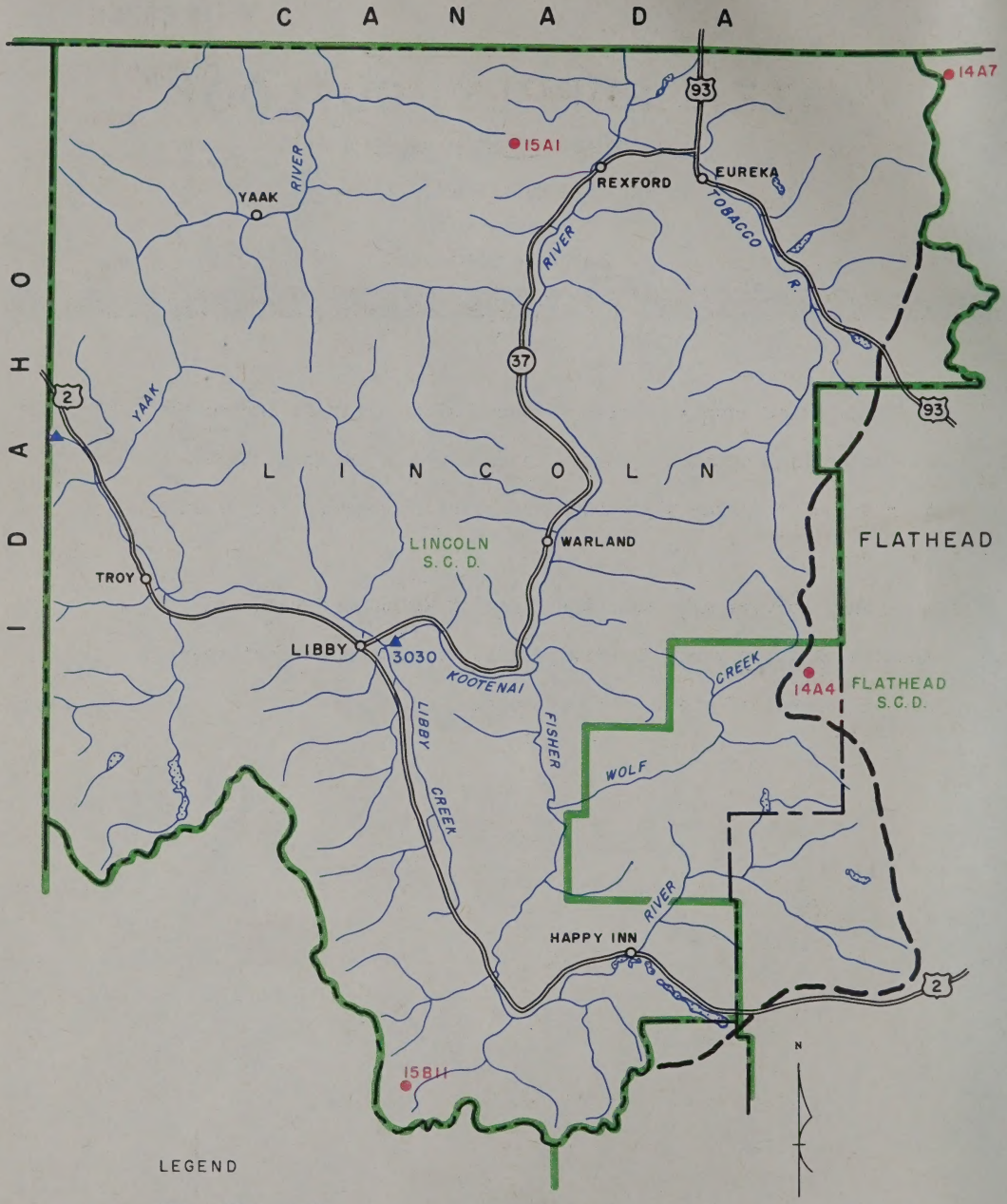
Soil Conservation Service
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

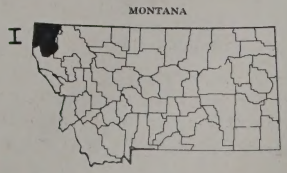
USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,507.1



LEGEND

- 13E2 — SNOW SURVEY COURSE
- 12D2M — SOIL MOISTURE STATION
- 13B3A — AERIAL MARKER AT SNOW COURSE
- 0125 — STREAM GAGING STATION
- DRAINAGE
- S. C. D. BOUNDARY
- WATERSHED BOUNDARY
- HIGHWAY
- TOWN
- COUNTY BOUNDARY
- STATE BOUNDARY



SCALE 10 5 0 10 MILES

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,507.2

WATER SUPPLY FORECASTS

WATERSHED I

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	KOOTENAI RIVER					
3030	Libby (at)	Apr-Sept	5844	76	6632	7723
		Apr-July	4987	75	5707	6694
3050	Leonia (at)	Apr-Sept	6633	74	7605	8907
		Apr-July	5739	73	6603	7817

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD).

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
14A4	Brush Creek	5000	2/21	22	5.2	10.2	13.4*
Can 10	Fernie	3500	2/27	4	2.0	6.3	9.1
Can 12A	Field	4200	2/27	20	4.5	4.8	5.5
Can 43	Gray Creek	5100	2/27	50	14.3	16.1	16.7*
Can 33	Kicking Horse	5400	3/1	47	11.9	10.9	13.3*
Can 20B	Kimberley	3800	2/28	16	4.4	7.7	7.6
Can 32	Marble Canyon	5000	2/28	41	7.0	10.8	13.2*
Can 10B	Morrissey Ridge	6100		No Report		21.0	-
Can 10A	New Fernie	4100	2/27	24	7.4	12.8	13.1*
15A1	Red Mountain	6000	2/27	40	11.9	14.4	18.0
Can 8A	Sinclair Pass	4500	2/28	14	2.9	4.6	5.7*
Can 20A	Sullivan Mine	5100	2/27	35	9.2	11.3	13.1*
Can 41	Upper Elk River	4400	2/28	6	2.7	4.5	8.2*
14A7	Weasel Divide	5450	2/28	71	25.2	27.9	29.6*

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

WATER SUPPLY OUTLOOK

FLATHEAD RIVER BASIN

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the Flathead River drainage is Fair to Good for the coming irrigation season.

Streamflow during the spring and summer months is expected to be 10 to 25 percent less than the 1943-57 average and about 15 to 20 percent less than last year.

Snow surveys made near the first of March indicate the mountain snow pack is 71 percent of last year and 69 percent average. In general, the low elevation snow pack is considerably below average, while in the higher elevations the snow pack is very close to average.

Reservoir storage on the Flathead Irrigation Project is more than last year and slightly less than average.

Soil moisture at Desert Mountain and Marias Pass is above average and above last year.

Report Prepared By:

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA SCS LINCOLN NEBR 962

5,L-16,398.1

CANADA
LEGEND
13 E 2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
N
FLATHEAD
S. C. D.
LAKE MCDONALD
STILLWATER
RIVER
OLNEY
WEST GLACIER
MIDDLE
WHITEFISH
COLUMBIA FALLS
CORAM
PINNACLE
BLACKTAIL
SOUTH
FORK
KALISPELL
ASHLEY LAKE
MARION
F L A T H E A D
SOMERS
BIGFORK
LITTLE
SWAN LAKE
SWAN
FLATHEAD LAKE
ELMO
LAKE CO. S. C. D.
POLSON
BITTERROOT RIVER
HOT SPRINGS
L A K E
SALMON L.
RONAN
CONDON
SANDERS
PLAINS
PARADISE
EASTERN SANDERS CO. S.C.D.
FLATHEAD
NORTH POWELL S. C. D.
ST. IGNATIUS
RAVALLI
ARLEE
POWELL
MISSOULA CO. S. C. D.
MISSOULA
14A7
14A6
13A3
13A8
13A14
13A6
13A7
13A16
14A3
3585
3555
13A2
13A2M
3630
3625
14A4
14A5
3A5
13A5M
14A9
13A10
13A17
13A13
13A12
13B11
13B2
14B3
13B4
13B3
3720
13B13A
13B5
13B14A
13B10
13B7
14B1
3890
3710
3700
MONTANA
SCALE 10 0 10 20 30 40 MILES
USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,398.2

WATER SUPPLY FORECASTS

WATERSHED II

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	NORTH FORK FLATHEAD RIVER					
3555	Columbia Falls (near)	Apr-Sept	1456	75	1678	1942
		Apr-July	1342	76	1540	1769
		Apr-June	1140	76	1356	1491
	MIDDLE FORK FLATHEAD RIVER					
3585	West Glacier (near)	Apr-Sept	1498	80	1702	1882
		Apr-July	1390	80	1582	1747
		Apr-June	1183	80	1402	1487
	SOUTH FORK FLATHEAD RIVER					
3625	Columbia Falls (nr)(17)	Apr-Sept	1946	85	2465	2297
		Apr-July	1840	85	2358	2180
		Apr-June	1620	85	2132	1901
	FLATHEAD RIVER					
3630	Columbia Falls (at)(17)	Apr-Sept	5038	80	6030	6299
		Apr-July	4668	80	5631	5846
		Apr-June	4012	80	5009	4993
3720	Polson (near)(18)	Apr-Sept	5987	80	7073	7463
		Apr-July	5557	80	6614	6939
		Apr-June	4730	80	5880	5896
	SWAN RIVER					
3700	Big Fork (near)	Apr-Sept	582	91		641
		Apr-July	515	91		568
		Apr-June	419	91		460

(17) Corrected for storage in Hungry Horse Reservoir.
(18) Corrected for storage in Hungry Horse Reservoir and Flathead Lake.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3620	Hungry Horse	3428.0	2772.0	2172.0	2369.0
3710	Flathead Lake	1791.0	1126.0	806.5	768.2
3757	Camas (4)	45.2	28.1	26.5	25.1
3800	Mission Valley (8)	100.3	31.0	24.2	35.5

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED II

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13B14A	Basin Creek	5000	2/22	12	4.0	11.3	9.2*
14B3	Bassoo Peak	5150	2/25	16	5.0	11.0	-
13B3	Big Creek	6750	2/28	94	35.0	38.4	36.6
14A4	Brush Creek	5000	2/21	22	5.2	10.2	13.4*
13A17	Camp Misery	6400	2/26	79	27.3	34.5	-
13B10	Coyote Hill	4200	3/1	28	7.4	11.8	9.9*
13A2	Desert Mountain	5600	2/26	33	9.4	13.4	14.1*
13B4	Fatty Creek	5500	2/28	44	14.3	19.0	-
Can 10	Fernie	3500	2/27	4	2.0	6.3	9.1
14A9	Griffin Creek Divide	5150	2/27	20	5.0	12.8	-
14A3	Hell Roaring Divide	5770	3/1	69	22.0	23.0	26.9*
13B13A	Holbrook	4530	2/22	19	6.4	13.4	9.9*
14A6	Kishenehn	3886	2/25	19	5.9	8.5	10.5*
14A5	Logan Creek	4300	2/21	19	4.4	9.4	9.0*
13A5	Marias Pass	5250	2/27	30	9.5	13.4	17.4
13A16	Mineral Creek	4000	2/28	36	10.6	15.1	20.4*
Can 10B	Morrissey Ridge	6100		No Report		21.0	-
Can 10A	New Fernie	4100	2/27	24	7.4	12.8	13.1*
13B7	North Fork Jocko	6330	3/1	105	34.4	43.0	38.3
13A13	Quintonkon	3800		No Report		14.6	13.9*
13B2	Spotted Bear Mt.	7000	2/22	28	7.6	13.6	14.8*
13A10	Strawberry Lake	6500	2/22	66	23.3	31.8	33.7*
13B1	Trinkus Lake	6500	2/22	72	24.2	34.0	36.3*
13A12	Trout Lake	3600	2/25	23	7.5	13.3	15.4*
14B1	TV Mountain	6800	3/1	52	14.2	17.2	14.9*
13B11	Twin Creeks	3580	2/25	19	6.0	10.8	11.2*
13B5	Upper Holland Lake	7000	2/22	67	20.0	34.5	28.4*
14A7	Weasel Divide	5450	2/28	71	25.2	27.9	29.6*

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A2M	Desert Mountain	5600	54	8.4	2/26	7.5	6.3	7.1
13A5M	Marias Pass	5280	54	6.5	2/27	6.0	5.6	5.3

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

LOWER CLARK FORK RIVER BASIN

MONTANA

AS OF:
MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for tributary streams to the Lower Clark Fork River drainage is only Fair.

Streamflow for the coming irrigation season is expected to be considerably less than last year on all tributaries to the Clark Fork. Streamflow on the main stem of the Clark Fork is expected to be 12 to 15 percent below average on the upper reaches of the basin, decreasing to about 23 percent below average as it leaves the state.

Snow surveys made near the first of March indicate the snow cover is only 65 percent of last year and 69 percent of the 1943-57 average.

Report Prepared By:

P. E. Farnes
U. S. Department of Agriculture
Soil Conservation Service
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,506.1

N
MONTANA
III
SCALE 10 0 10 20 30 40 MILES
GREEN MOUNTAIN S.C.D.
EASTERN SANDERS COUNTY S.C.D.
NORTH POWELL S.C.D.
MISSOULA S.C.D.
MINERAL CO S.C.D.
BITTERROOT S.C.D.
S A N D E R S
M I N E R A L
M I S S O U L A
I D A H O
NOXON
THOMPSON FALLS
SALTESE
ST. REGIS
SUPERIOR
ALBERTON
PLAINS
PARADISE
RAVALLI
ARLEE
MISSOULA
CLEARWATER
BONNER
BONITA
LOLO
LOLO HOT SPRINGS
CLARK FORK R.
THOMPSON R.
FLATHEAD R.
BITTERROOT R.
10A
10
28
93
20
3920
3910
3890
3545
3530
3495
3405
3404
3400
3385
15B11
14B3
15B2
15C1
14B1
13B10
13B7
13C14M
13C8
14C5
14C6
14C4
LEGEND
13 E 2 SNOW SURVEY COURSE
12 D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY

WATER SUPPLY FORECASTS

WATERSHED III

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	BLACKFOOT RIVER					
3400	Bonner (near)	Apr-Sept	881	88	1090	1000
		Apr-July	787	87	993	907
		Apr-June	670	87	877	775
	BITTERROOT RIVER					
3528	Missoula (near)(16)	Apr-Sept	1082	66	1464	1557
		Apr-July	962	66	1365	1450
		Apr-June	825	66	1219	1244
	CLARK FORK RIVER					
3404	Milltown (above)(14)	Apr-Sept	704	86	769	815
		Apr-July	619	86	677	716
		Apr-June	523	86	590	609
3405	Missoula (above)	Apr-Sept	1585	87	1859	1814
		Apr-July	1406	87	1660	1620
		Apr-June	1193	86	1467	1384
3530	Missoula (below)	Apr-Sept	2613	78	3323	3361
		Apr-July	2368	78	3025	3059
		Apr-June	2018	77	2686	2608
3545	St. Regis (at)	Apr-Sept	3405	75	4416	4549
		Apr-July	3070	74	4013	4140
		Apr-June	2617	74	3566	3550
3890	Plains (near)(18)	Apr-Sept	9660	78	11956	12337
		Apr-July	8744	77	11030	11316
		Apr-June	7450	77	9775	9625
3920	Whitehorse Rapids (at)(19)	Apr-Sept	10792	77	13324	13932
		Apr-July	9800	77	12244	12763
		Apr-June	8313	77	10846	10816

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner.
(16) Difference in observed flow, Clark Fork above and below Missoula.
(18) Corrected for storage in Flathead Lake & Hungry Horse Reservoir.
(19) Corrected for storage in Flathead Lake, Hungry Horse and Noxon Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3913	Noxon	334.6	297.9	251.5	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
14B3	Bassoo Peak	5150	2/25	16	5.0	11.0	-
13B10	Coyote Hill	4200	3/1	28	7.4	11.8	9.9*
15C1	Hoodoo Creek	6200	2/26	77	28.0	-	46.0*
14C5	Lolo Pass	5230	2/25	49	17.5	34.4	32.9*
15B2	Lookout	5250	2/28	60	19.3	31.4	33.7*
13C8	Lubrecht Forest #6	4040	3/3	11	3.3	7.8	3.4*
13B7	North Fork Jocko	6330	3/1	105	34.4	43.0	38.3
14C6	Powell R. S.	4230	2/25	21	7.3	13.7	14.6*
14C4	Savage Pass	6600	2/25	52	18.6	24.2	-
13C1	Stuart Mountain	7400	3/2	77	17.8	25.9	27.4*
14B1	TV Mountain	6800	3/1	52	14.2	17.2	14.9*

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

WATER SUPPLY OUTLOOK

UPPER CLARK FORK RIVER BASIN

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the Upper Clark Fork River basin is Good for the coming irrigation season.

Streamflow during the spring and summer months is expected to be 10 to 14 percent below average.

The Clark Fork above Milltown is forecast to flow about 8 percent less water than last year while the Blackfoot is forecast at about 20 percent less than last year.

Snow surveys made near the first of March indicate the mountain snow pack is 93 percent of last year and 95 percent of the 1943-57 average.

Reservoir storage in Georgetown Lake is above average and more than last year.

Report Prepared By:

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Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

5,L-16,396.1

5,L-16,396.2

USDA-SCS LINCOLN NEBR 1962

WATER SUPPLY FORECASTS

WATERSHED IV

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	FLINT CREEK					
3295	Maxville (at)	Apr-Sept	42.0	90	39.1	46.4
		Apr-July	32.0	90	27.8	35.4
	BOULDER CREEK					
3300	Maxville (at)	Apr-Spet	24.8	88	24.8	28.2
		Apr-July	22.8	88	22.7	25.8
	MIDDLE FORK ROCK CREEK					
3320	Philipsburg	Apr-Sept	74.4	93		80.2
		Apr-July	67.0	93		72.1
	BLACKFOOT RIVER					
3400	Bonner (near)	Apr-Sept	881	88	1090	1000
		Apr-July	787	87	993	907
		Apr-June	670	87	877	775
	CLARK FORK RIVER					
3404	Milltown (above)(14)	Apr-Sept	704	86	769	815
		Apr-July	619	86	677	716
		Apr-June	523	86	590	609

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3250	Georgetown Lake	31.0	24.9	22.6	23.0

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED IV

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6475	2/25	32	10.6	12.8	-
13C13	Black Pine	7100	2/26	35	10.8	10.7	-
12C5	Chessman Reservoir	6200	2/26	7	2.1	3.3	4.3
13C9	El Dorado Mine	7800	2/25	52	17.4	17.9	17.3*
13C11	Fred Burr Pass	8000	3/1	68	21.2	19.6	22.4*
13C10	Gold Creek Lake	7200	2/25	38	12.3	13.0	13.4*
13C4	Intergaard	6450	3/1	29	6.8	8.1	6.6
13C8	Lubrecht Forest #6	4040	3/3	11	3.3	7.8	3.4*
12D1	Pipestone Pass	7200	3/1	19	4.4	5.3	4.4
13C12	Red Lion	7000	3/1	57	15.6	12.5	14.4*
13C3	Skalkaho Summit	7259	2/26	55	18.4	21.8	-
13C2	Slide Rock Mt.	7100	2/27	40	11.4	12.8	12.5*
13C5	Southern Cross	6500	3/1	22	5.7	7.1	5.0
12C1	Stemple Pass	6900	2/27	27	7.1	9.1	9.2
13C7	Storm Lake	7780	2/28	39	11.6	12.0	11.6*
13C6	Stuart Mill	6500	3/1	23	6.4	6.4	5.6
12C2	Tenmile, Lower	6250	2/26	17	5.0	6.6	6.3
12C3	Tenmile, Middle	6800	2/25	29	8.4	9.0	9.2
12C4	Tenmile, Upper	8000	2/25	36	10.6	11.5	11.9

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13C15M	Georgetown Lake	6450	48	8.3	2/28	3.1	-	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

BITTERROOT RIVER BASIN

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook in the Bitterroot River drainage is Fair for the coming irrigation season. Streams with high elevation watersheds are expected to produce 10 to 20 percent below average flows this spring and summer with the main stem of the Bitterroot producing less flow. Less water percentagewise can be expected from streams on the west side as compared to streams on the east side of the Bitterroot River.

Streamflow is not expected to be as low as 1961; however, farmers and ranchers who depend on natural streamflow for irrigation, should consider planting early maturing crops such as grains and millet for hay. Starting new stands of hay and pasture should be deferred, unless the outlook improves, as the water supply will be most critical later in the irrigation season.

Snow surveys made near the first of March indicate the mountain snow pack is only 64 percent of last year and 61 percent of the 1943-57 average.

Report Prepared By:

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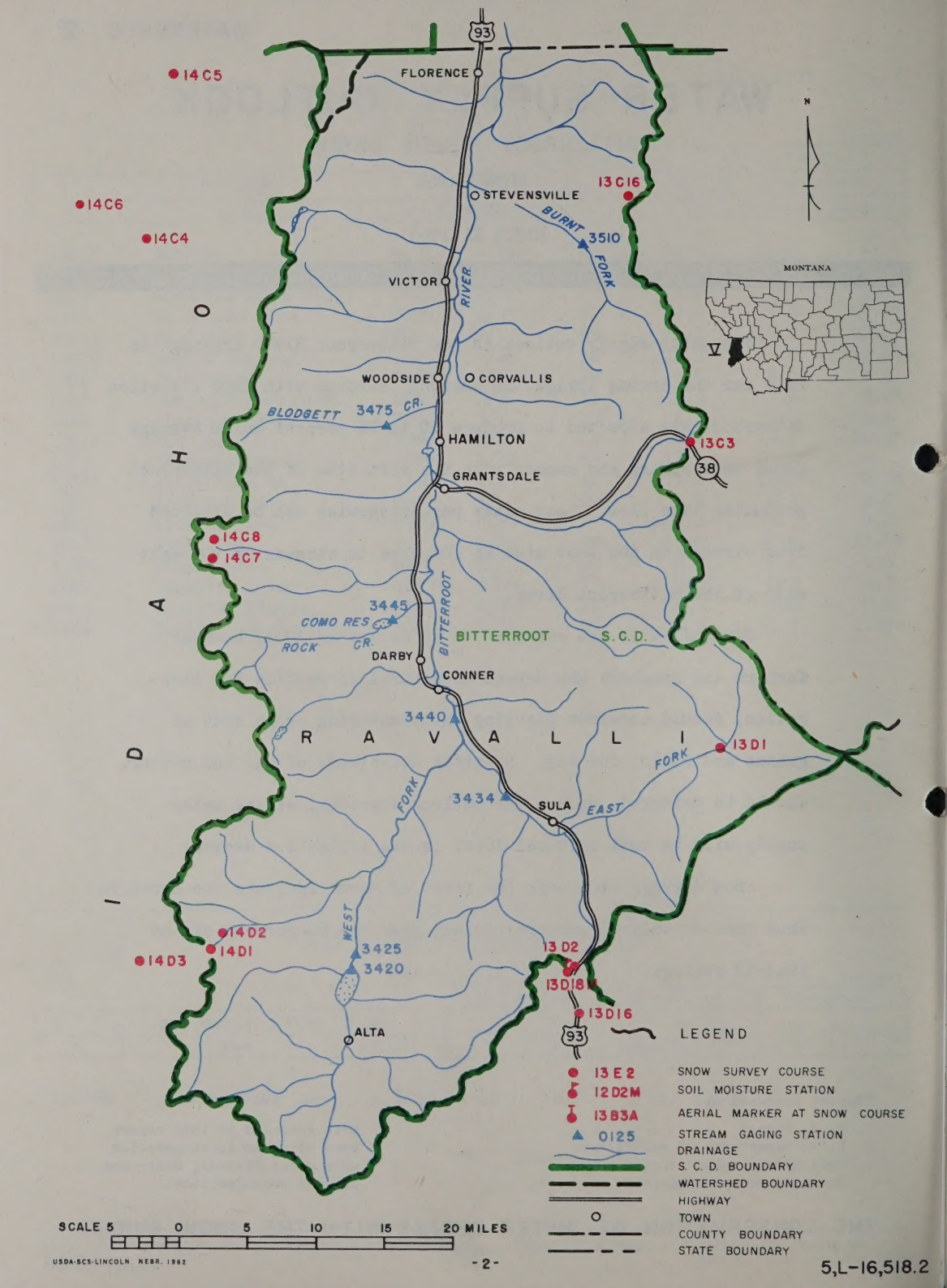
Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,518.1


93
FLORENCE
14C5
14C6
14C4
13C16
STEVENSVILLE
BURNT FORK
3510
VICTOR
RIVER
WOODSIDE
CORVALLIS
BLODGETT CR.
3475
HAMILTON
13C3
38
GRANTSDALE
14C8
14C7
3445
COMO RES.
ROCK CR.
BITTERROOT
BITTERROOT S.C.D.
DARBY
CONNER
3440
R A V A L L I
13D1
FORK
EAST
3434
SULA
FORK
WEST
14D2
14D1
14D3
3425
3420
13D2
13D18
13D16
ALTA
93
I D A H O
N
MONTANA
V
LEGEND
13E2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
SCALE 5 0 5 10 15 20 MILES
USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,518.2

WATER SUPPLY FORECASTS

WATERSHED V

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	WEST FORK BITTERROOT RIVER					
3425	Conner (near)(15)	Apr-Sept	139	79		176
		Apr-July	130	79		164
	BITTERROOT RIVER					
3440	Darby (near)	Apr-Sept	430	73	548	587
		Apr-July	398	73	510	547
		Apr-June	348	73	459	477
3528	Missoula (near)(16)	Apr-Sept	1028	66	1464	1557
		Apr-July	962	66	1365	1450
		Apr-June	825	66	1219	1244
	BLODGETT CREEK					
3475	Corvallis (near)	Apr-Sept	41.2	88		46.7
		Apr-July	39.2	88		44.4

(15) Corrected for storage in Painted Rocks Reservoir.
(16) Difference in observed flow, Clark Fork above and below Missoula.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3445	Como	34.9	22.8	13.8	10.7

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED V

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6475	2/25	32	10.6	12.8	-
13D1	East Fork R. S.	5400	3/1	22	5.8	6.2	6.5*
13D2	Gibbons Pass	7100	2/27	55	16.6	19.5	22.2
14C5	Lolo Pass	5230	2/25	49	17.5	34.4	32.9*
14C7	Lost Horse	5940	2/27	61	17.8	27.0	-
13D16	Moose Creek	6200	2/27	36	8.0	12.6	16.1
14D2	Nez Perce Camp	5580	2/28	32	9.0	13.8	12.4*
14D1	Nez Perce Pass	6575	2/28	33	9.0	14.4	16.8*
14C6	Powell R. S.	4230	2/25	21	7.3	13.7	14.6*
14C4	Savage Pass	6600	2/25	52	18.6	24.2	-
13C3	Skalkaho Summit	7259	2/26	55	18.4	21.8	-
14C8	Twin Lakes	6510	2/27	88	27.3	36.2	-

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13D18M	Gibbons Pass	7100	48	7.1	3/1	5.8	-	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MARIAS, TETON, & SUN RIVER BASINS

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the Marias, Teton and Sun River basins is only Fair to Poor for the coming irrigation season. Streamflow in the spring and summer months is expected to be 25 to 40 percent below average and less than last year.

Farmers and ranchers who depend on natural streamflow for irrigation should give serious consideration to planting early maturing crops, such as grains and millet for hay, if the water supply outlook does not improve in the next two months. Starting new stands of hay and pasture should be deferred as the water supply will be most critical during the latter part of the season.

Those dependent on a limited water supply should consider summer fallowing part of their cropland for weed control, or defer cropping to facilitate land leveling or revision of irrigation systems.

Snow surveys made near the first of March indicate the mountain snow pack is only 56 percent of last year and one-half of the 1943-57 average.

Reservoir storage is below average on the Sun drainage and the upper reservoirs of the Marias drainage.

Report Prepared By:

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR 1962

5,L-16,502.2

WATER SUPPLY FORECASTS

WATERSHED VI

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	NORTH FORK SUN RIVER					
0785	Augusta (near)	Apr-Sept	171	72		239
		Apr-July	159	72		222
	SUN RIVER					
0786	Gibson Dam (at)(10)	Apr-Sept	436	74	616	588
		Apr-July	396	74	569	538
	MARIAS RIVER					
0995	Shelby (near)	Apr-Sept	401	61	419	659
		Apr-July	363	60	391	605
	MISSOURI RIVER					
0908	Ft. Benton (at)(5)	Apr-Sept	2590	72		3599
		Apr-July	2204	72		3076

(5) Corrected for storage in Canyon Ferry Reservoir.
(10) Corrected for storage in Gibson Reservoir and diversions.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0795	Gibson	105.0	43.0	39.0	63.3
0805	Pishkun	32.0	18.3	17.0	18.8
0820	Willow Creek	32.3	25.7	10.6	19.2
0940	Swift	30.0	12.6	16.8	23.1
0955	Lake Francis	112.0	65.6	76.0	94.6
1013	Tiber	1313.0	650.2	613.3	632.7

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED VI

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
12B8	Benchmark	5500	2/19	9	2.4	7.5	8.1*
12B6	Cabin Creek	5400	2/22	14	4.3	8.3	6.8*
12B9	Five-Bull	5600	2/19	4	0.9	5.6	6.2*
12A1	Freight Creek	6000	2/20	32	8.7	12.7	14.9*
12B5	Gates Park	5300	2/22	19	3.8	10.4	9.9*
12B7	Goat Mountain	7000	2/28	23	6.6	11.8	10.7
13A5	Marias Pass	5250	2/27	30	9.5	13.4	17.4
13A16	Mineral Creek	4000	2/28	36	10.6	15.1	20.4*
12B2	Waldron Creek	5600	2/19	10	2.8	4.6	6.5*
12B1	West Fork	6000	2/20	21	6.3	-	14.0*
12B4	Wrong Creek	5700	2/22	27	7.8	14.8	14.8*
12B3	Wrong Ridge	6800	2/22	42	11.3	17.5	20.4*

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A5M	Marias Pass	5250	54	6.5	2/27	6.0	5.6	5.3

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MISSOURI RIVER (MAIN STEM) BASIN

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the tributary streams to the Main Stem of the Missouri River is Fair to Good for the coming irrigation season. Streams on the west side of the Missouri are expected to produce 75 to 85 percent average flow while those on the east side should produce 80 to 90 percent average flow. Streamflow on the Main Stem of the Missouri is expected to be about three-quarters of the 1943-57 average.

Snow surveys made near the first of March indicate the mountain snow pack is 82 percent of last year and 79 percent of average.

Storage in Smith River reservoir is above average and should help avert late season water shortages downstream from the reservoir.

Report Prepared By:

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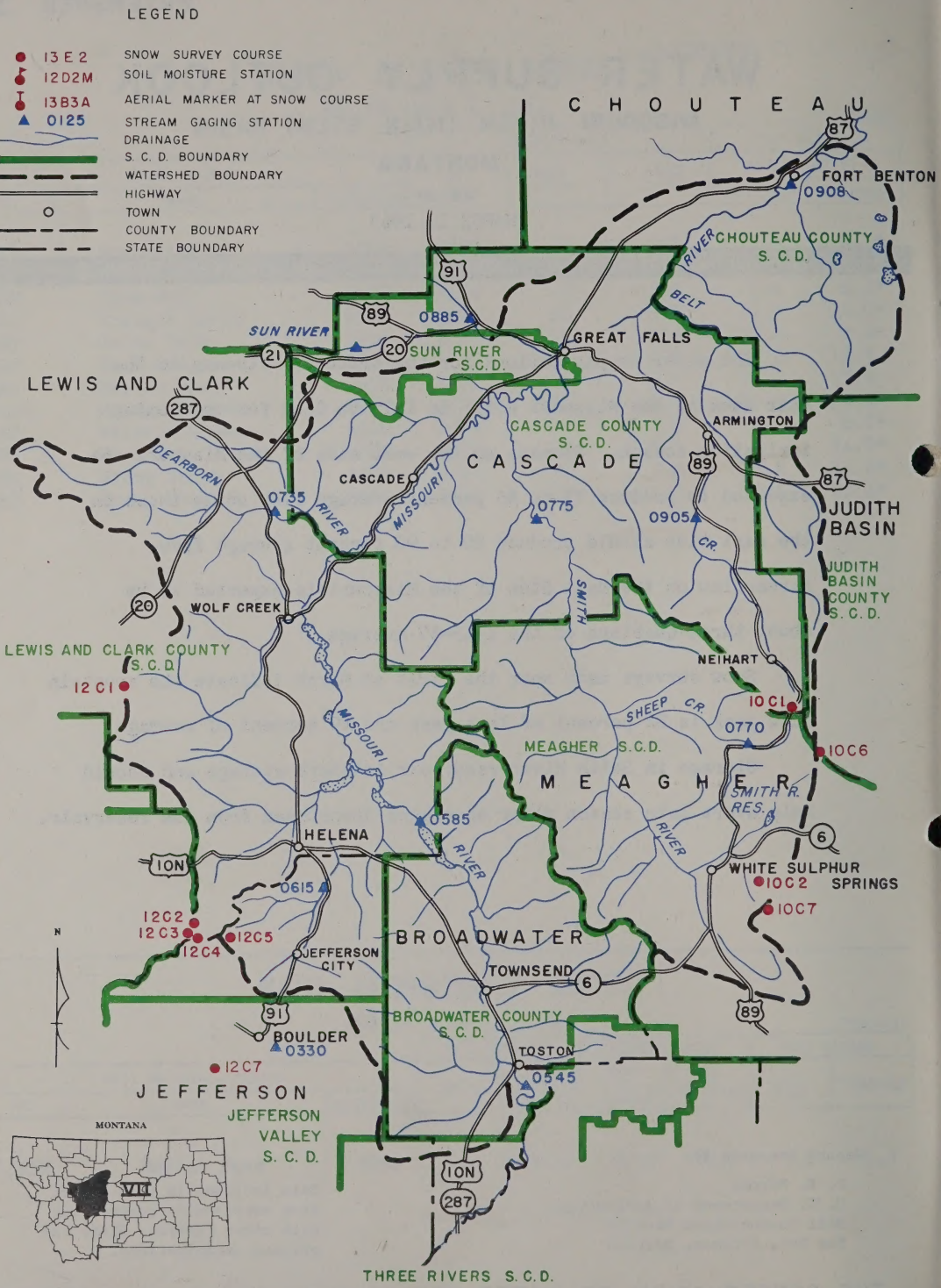
Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

5,L-16,400.1


LEGEND
13 E 2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
CHOUTEAU
FORT BENTON
0908
CHOUTEAU COUNTY S. C. D.
BELT RIVER
0885
SUN RIVER
SUN RIVER S.C.D.
GREAT FALLS
LEWIS AND CLARK
DEARBORN
0735
RIVER
MISSOURI
CASCADE
CASCADE COUNTY S. C. D.
CASCADE
0775
ARMINGTON
0905
CR.
JUDITH BASIN
JUDITH BASIN COUNTY S. C. D.
SMITH
WOLF CREEK
LEWIS AND CLARK COUNTY S. C. D.
12 C1
NEIHART
10 C1
SHEEP CR.
0770
10C6
MEAGHER S.C.D.
MEAGHER
SMITH R. RES.
0585
HELENA
RIVER
WHITE SULPHUR SPRINGS
10C2
10C7
0615
12C2
12C3
12C4
12C5
JEFFERSON CITY
BROADWATER
TOWNSEND
BROADWATER COUNTY S. C. D.
BOULDER
0330
12C7
TOSTON
0545
JEFFERSON
JEFFERSON VALLEY S. C. D.
MONTANA
VII
THREE RIVERS S. C. D.
SCALE 10 0 10 20 30 40 MILES
N

WATER SUPPLY FORECASTS

WATERSHED VII

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER					
0545	Toston (at)(3)	Apr-Sept	1813	77		2342
		Apr-July	1560	77		2030
0908	Fort Benton (at)(5)	Apr-Sept	2590	72		3599
		Apr-July	2204	72		3076
	PRICKLY PEAR CREEK					
0615	Clancy (near)	Apr-Sept	19.4	81		23.9
		Apr-July	17.0	82		20.8
	SUN RIVER					
0786	Gibson Dam (at)(10)	Apr-Sept	436	74	616	588
		Apr-July	396	74	569	538

(3) Corrected for storage in Hebgen and Ennis Lakes.
(5) Corrected for storage in Canyon Ferry Reservoir.
(10) Corrected for storage in Gibson Reservoir and diversions.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0585	Canyon Ferry	2043.0	1973.0	1285.0	1558.0
0645	Lake Helena	10.4	5.0	4.6	8.1
0650	Hauser Lk. & Lk. Helena	61.9	45.5	44.1	53.8
0660	Holter Lake	81.9	58.7	51.8	59.2
0750	Smith River	10.7	8.2	2.2	5.6

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
12C7	Berry Meadow	7350	2/28	24	6.4	8.0	-
12C5	Chessman Reservoir	6200	2/26	7	2.1	3.3	4.3
10C7	Elk Peak	8000	2/27	42	12.5	-	-
10C2	Grasshopper	7000	2/27	17	5.2	5.5	4.3
10C1	Kings Hill	7500	2/26	30	6.7	10.1	11.5
10C6	Spur Park	8000	2/28	52	14.5	-	-
12C1	Stemple Pass	6900	2/27	27	7.1	9.1	9.2
12C2	Tenmile, Lower	6250	2/26	17	5.0	6.6	6.3
12C3	Tenmile, Middle	6800	2/25	29	8.4	9.0	9.2
12C4	Tenmile, Upper	8000	2/25	36	10.6	11.5	11.9

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

WATER SUPPLY OUTLOOK

JEFFERSON RIVER AND TRIBUTARY BASINS

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook is Poor in the Red Rock-Beaverhead-Ruby drainages and Fair to Good in the Boulder-Big Hole drainages for the coming irrigation season. Streamflow during the spring and summer months is expected to be only about one-half of average in the Red Rock drainage. The Big Hole and Boulder Rivers should produce flows about 15 percent less than average.

Streamflow is not expected to be quite as low as in 1961; however, farmers and ranchers who depend on natural streamflow for irrigation should consider planting of early maturing crops, such as grains and millet for hay. Starting new stands of hay or pasture should be deferred unless the outlook improves, as the water supply will be most critical later in the irrigation season.

Snow surveys made near the first of March indicate the mountain snow pack over the area is 72 percent of last year and 71 percent of the 1943-57 average, with the best snow pack in the northern portion and decreasing percentagewise to the south.

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR 1962

5,L-16,394.1

USDA-SCS-LINCOLN NEBR. 1962

5,L-16,394.2

WATER SUPPLY FORECASTS

WATERSHED VIII

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	RED ROCK RIVER					
0110	Kennedy Ranch (at)	Apr-Sept	42.2	55	106	76.6
		Apr-July	38.9	55	97	70.8
0125	Monida (near)(1)	Apr-Sept	43.7	51	110	86.4
		Apr-July	41.4	50	101	82.2
	BIG HOLE RIVER					
0255	Melrose (near)	Apr-Sept	650	85	671	770
		Apr-July	602	85	619	714
	BOULDER RIVER					
0330	Boulder (near)	Apr-Sept	69.3	87		79.9
		Apr-July	66.4	87		76.5
	JEFFERSON RIVER					
0345	Sappington (at)	Apr-Sept	817	76		1074
		Apr-July	726	76		958

(1) Corrected for storage in Lima Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0120	Lima	84.0	24.5	16.5	32.8
0205	Ruby	38.8	22.5	23.2	27.2

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13D20	Abundance Lake	8800	2/22	47	12.2	-	-
12C7	Berry Meadow	7300	2/28	24	6.4	8.0	-
13D10	Bloody Dick	7600	2/26	30	7.6	9.8	10.0*
11D7	Call Road	8050	2/22	30	6.8	-	-
12E3	Camp Creek	6800	2/26	13	3.0	9.2	9.2
12D4	Carter Creek	7400	2/27	13	2.6	-	-
13C5	Chessman Reservoir	6200	2/26	7	2.1	3.3	4.3
11D8	Clover Meadow	8600	2/22	37	8.6	-	-
11D6	Crockett Lake	8400	2/22	31	7.4	-	-
13D19	Darkhorse Lake	8600	2/22	60	17.9	-	-
12E7	Divide	7900	2/22	23	6.4	-	-
13D15	Elk Horn Springs	8000	2/27	34	7.7	10.1	9.1
13D21	Foolhen	8500	2/22	41	12.3	-	-
13D2	Gibbons Pass	7100	2/27	55	16.6	19.5	22.2
13D9	Gold Stone	8100	2/26	40	10.8	13.4	12.9*
13D8	Jahnke Creek	7340	2/26	24	6.1	7.0	9.4*
11E12	Kilgore	6200	2/27	15	3.6	12.1	9.5
11E4	Lakeview Canyon	6930	2/27	25	5.8	12.6	10.5*
11E3	Lakeview Ridge	7400	2/27	21	5.6	10.7	8.9*
13E1	Lemhi Pass	7480	2/25	23	6.0	7.0	7.5*
13D16	Moose Creek	6200	2/27	36	8.0	12.6	16.1
12E6	Notch	8500	2/22	28	7.0	-	-
12C6	Picnic Grounds	6500	3/1	21	4.6	5.1	4.7
12D1	Pipestone Pass	7200	3/1	19	4.4	5.3	4.4
13C7	Storm Lake	7780	2/28	39	11.6	12.0	11.6
12C2	Tenmile, Lower	6250	2/26	17	5.0	6.6	6.3
12C3	Tenmile, Middle	6800	2/25	29	8.4	9.0	9.2
12C4	Tenmile, Upper	8000	2/25	36	10.6	11.5	11.9
13E2	Trail Creek	7090	2/25	20	4.6	6.1	6.7*
12E1	White Pine Ridge	8850	2/22	16	2.8	4.8	4.6*

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13D18M	Gibbons Pass	7100	48	7.1	3/1	5.8	-	-
11E13M	Lakeview	6700	48	15.3	3/4	9.7	-	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MADISON, & GALLATIN RIVER BASINS

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook is Fair on the tributary streams of the Madison River and Good in the Gallatin River drainage for the coming irrigation season. Streamflow during the spring and summer months is expected to be slightly below average on the West Gallatin River and slightly above average on the East Gallatin River and Hyalite Creek drainages. Streamflow on the Main Stem of the Madison is forecast to be 20 to 25 percent less than average; however, tributary streams are expected to produce only 50 to 70 percent average flows.

Farmers and ranchers on the Madison drainage, who depend on natural streamflow for irrigation, should give serious consideration to planting of early maturing crops such as grain and millet for hay. Starting new stands of hay or pasture should be deferred unless the outlook improves, as the water supply will be most critical later in the irrigation season.

Snow surveys made near the first of March indicate the mountain snow pack in the Madison River drainage is only 49 percent of last year and 56 percent of average. In the Gallatin drainage it is 77 percent of last year and 94 percent average.

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THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,521.1

TOWNSEND
MEAGHER S. C. D.
MEAGHER
RINGLING
BROADWATER CO. S. C. D.
TOSTON
BROADWATER
0545
JEFFERSON
JEFFERSON
0525
GALLATIN
PARK S. C. D.
PARK
10D10
10D11M
THREE FORKS
MANHATTAN
SAPPINGTON
0345
THREE RIVERS S. C. D.
BELGREADE
0480
BOZEMAN
11D2M
11D4M
NORRIS
11D3
0410
0405
ENNIS LAKE
0500
0495
0435
10D1
10D3
GALLATIN VALLEY
10D4
KARSTS KAMP S. C. D.
ENNIS
11D5
VIRGINIA CITY
MADISON
MADISON S. C. D.
CAMERON
MADISON
11D7
11D6
RUBY VALLEY S. C. D.
11D8
10D5
WYOMING
11E5
11E6
0385
0380
HEBGEN LAKE
10E2
10E3
BEAVERHEAD
BEAVERHEAD S. C. D.
11E7
WEST YELLOWSTONE
0375
11E8
11E9
10E7
SCALE 10 0 10 20 MILES
N
MONTANA
IX
LEGEND
13 E 2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY

WATER SUPPLY FORECASTS

WATERSHED IX

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MADISON RIVER					
0375	West Yellowstone (near)	Apr-Sept	177	82		216
		Apr-July	134	81		165
0385	Grayling (near)(2)	Apr-Sept	346	77		448
		Apr-July	273	77		357
0410	McAllister (near)(3)	Apr-Sept	575	76		756
		Apr-July	465	76		613
	GALLATIN RIVER					
0435	Gateway (near)	Apr-Sept	430	94		459
		Apr-July	372	94		395
	HYALITE CREEK					
0500	Ranger Station (at)(4)	Apr-Sept	39.8	110		36.1
		Apr-July	34.3	110		31.0
	GALLATIN RIVER					
0525	Logan (at)	Apr-Sept	438	96		492
		Apr-July	381	96		422
	MISSOURI RIVER					
0545	Toston (at)(3)	Apr-Sept	1813	77		2342
		Apr-July	1560	77		2030

(2) Corrected for storage in Hebgen Lake.
(3) Corrected for storage in Hebgen and Ennis Lakes.
(4) Corrected for storage in Middle Creek Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0380	Hebgen Lake	384.8	249.0	109.6	213.9
0405	Ennis Lake	41.0	39.3	38.8	35.9
0500	Middle Creek	8.0	4.7	2.5	3.8

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED IX

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
11E9	Big Springs	6500	2/27	35	9.2	22.8	20.4
11D7	Call Road	8050	2/22	30	6.8	-	-
10E3	Canyon	7750	2/28	42	10.2	16.3	13.8
11D8	Clover Meadow	8600	2/22	37	8.6	-	-
10D5	Crevice Mountain	8400	3/1	34	7.1	8.5	8.2
11D6	Crockett Lake	8400	2/22	31	7.4	-	-
10D4	Devil's Slide	8100	3/2	72	19.8	21.8	16.3
11E5	Hebgen Dam	6550	2/27	29	6.4	12.1	11.2
10D3	Hood Meadow	6600	3/2	36	9.7	9.4	7.2
11E10	Island Park	6315	2/27	31	7.8	17.6	15.8
11D5	Jack Creek	6800	2/27	21	5.0	7.0	-
10D1	New World	6700	2/23	29	8.2	9.0	8.3*
10E2	Norris Basin	7500	2/27	33	8.1	9.9	9.3*
11D3	North Meadow	7500	2/27	20	5.3	9.6	-
10D10	Sacajawea	6550	3/4	44	12.4	11.2	-
10E7	Thumb Divide	7900	2/27	48	12.8	24.5	21.4*
11E6	Twenty-One Mile	7150	2/28	32	7.6	19.0	16.0
11E8	Valley View	6500	2/27	32	8.4	15.8	13.4*
11E7	West Yellowstone	6700	2/28	23	4.9	15.0	11.3

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10D11M	Battle Ridge	6020	48	15.4	2/27	13.8	14.3	-
11D2M	College Site	4856	54	14.5	3/1	13.3	11.6	9.0
10D4M	Red Bluff	4800	40	4.7	3/2	2.5	2.8	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

JUDITH, & MUSSELSHELL RIVER BASINS

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is Good in the Musselshell and Judith drainages. Streamflow during the spring and summer months is expected to be near average.

Snow surveys made near the first of March indicate the mountain snow pack is about the same as last year and slightly above average. Crystal Lake, south of Lewistown, has the highest March 1 water content since records began on this snow course in 1941.

Two new snow courses, Elk Peak and Spur Park, were established this year and should provide more data on the higher elevation snow accumulation.

Report Prepared By:

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

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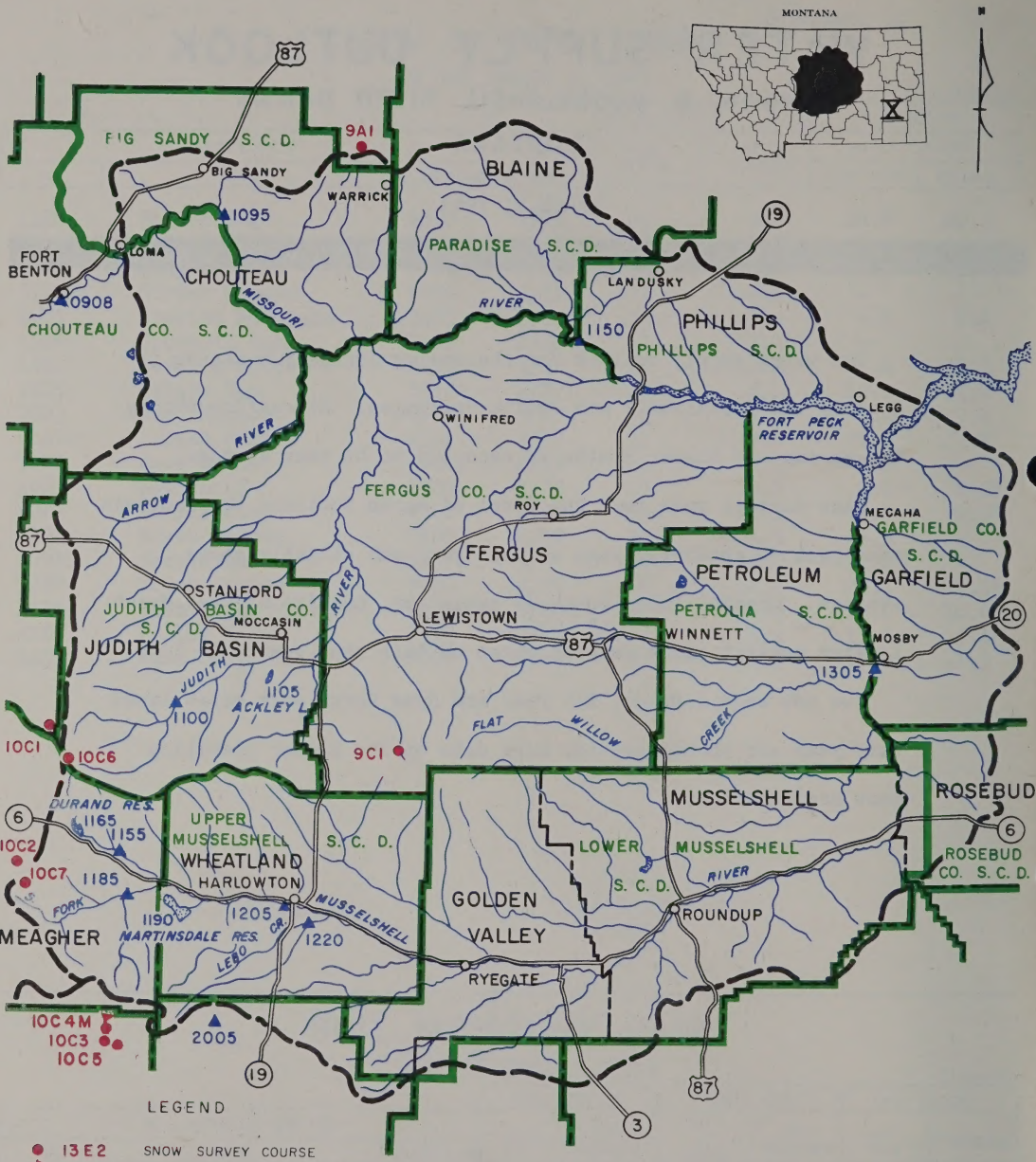
MONTANA
BIG SANDY S. C. D.
BIG SANDY
9A1
WARRICK
BLAINE
1095
LOMA
FORT BENTON
0908
CHOUTEAU
CHOUTEAU CO. S. C. D.
MISSOURI
RIVER
PARADISE S. C. D.
LANDUSKY
1150
PHILLIPS
PHILLIPS S. C. D.
LEGG
FORT PECK RESERVOIR
WINIFRED
ARROW
FERGUS CO. S. C. D.
ROY
FERGUS
MECAHA
GARFIELD CO. S. C. D.
GARFIELD
PETROLEUM
PETROLIA S. C. D.
WINNETT
MOSBY
1305
STANFORD
JUDITH BASIN CO. S. C. D.
MOCCASIN
JUDITH BASIN
LEWISTOWN
1105
ACKLEY L.
1100
FLAT WILLOW CREEK
10C1
10C6
9C1
DURAND RES.
1165
1155
10C2
10C7
1185
UPPER MUSSELSHELL S. C. D.
WHEATLAND
HARLOWTON
1190
1205
1220
MEAGHER
MARTINSDALE RES.
LEBO CR.
MUSSELSHELL
GOLDEN VALLEY
RYEGATE
MUSSELSHELL
LOWER MUSSELSHELL S. C. D.
RIVER
ROUNDUP
ROSEBUD
ROSEBUD CO. S. C. D.
10C4M
10C3
10C5
2005
LEGEND
13E2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM-GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
SCALE 10 0 10 20 30 40 MILES

WATER SUPPLY FORECASTS

WATERSHED X

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	SOUTH FORK MUSSELSHELL R.					
1185	Martinsdale (above)	Apr-Sept	54.0	100	49.8	53.6
		Apr-July	51.6	100	46.0	51.4
	MISSOURI RIVER					
1150	Zortman (near)(6)	Apr-Sept	3357	70		4806
		Apr-July	2879	70		4143

(6) Corrected for storage in Canyon Ferry and Tiber Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
1105	Ackley Lake	5.8	3.7	-	3.9
1165	Durand	7.0	6.4	1.4	4.9
1190	Martinsdale	23.1	8.6	1.5	9.8
1225	Deadman's Basin	72.2	52.5	10.0	46.9

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED X

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10C5	Bald Ridge	7500	2/26	33	9.5	9.9	-
9C1	Crystal Lake	6100	3/1	51	15.4	12.1	9.9
10C7	Elk Peak	8000	2/27	42	12.5	-	-
10C2	Grasshopper	7000	2/27	17	5.2	5.5	4.3
10C1	Kings Hill	7500	2/26	30	6.7	10.1	11.5
10C3	Porcupine R. S.	6500	2/26	22	5.8	8.0	5.9
9A1	Rocky Boy	5200	3/1	24	6.2	4.4	4.8
10C6	Spur Park	8000	2/28	52	14.5	-	-

SOIL MOISTURE DATA

AS OF March 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10C4M	Shields River	5850	48	17.8	2/27	15.3	12.1	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

UPPER YELLOWSTONE RIVER BASIN

MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is Fair to Good in the Yellowstone River drainage. Streamflow is expected to be 10 to 20 percent less than average during the spring and summer months.

Snow surveys made near the first of March indicate the mountain snow pack is 71 percent of last year and 80 percent of the 1943-57 average.

Soil moisture is generally good at the low and medium elevations as a result of warm weather and snow melt.

Report Prepared By:

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

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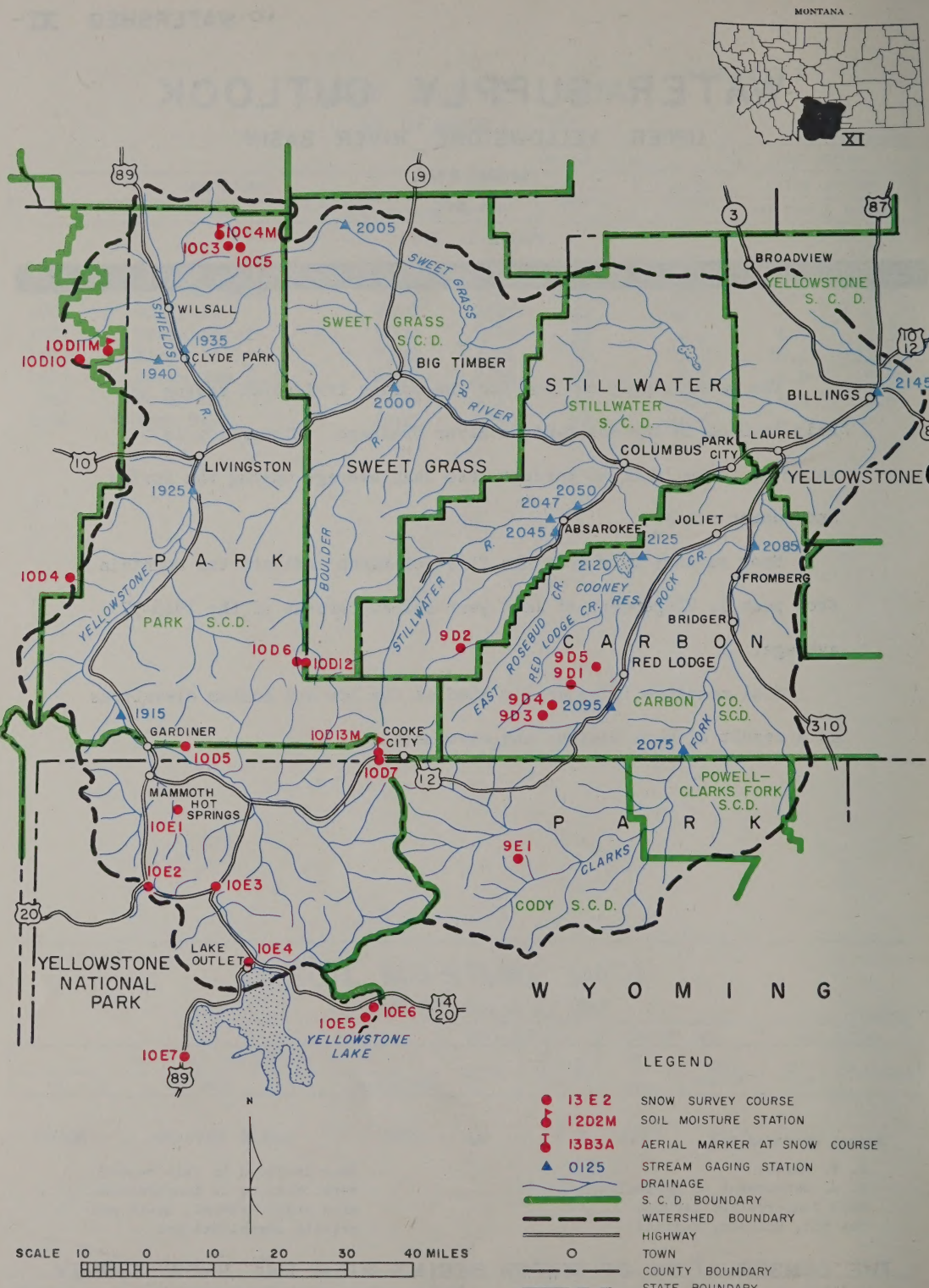

USDA-SCS-LINCOLN NEBR. 1962

5,L-16,510.2

WATER SUPPLY FORECASTS

WATERSHED XI

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	YELLOWSTONE RIVER					
1915	Corwin Springs (at)	Apr-Sept	1699	86	2266	1980
		Apr-July	1422	86	1903	1649
1925	Livingston (near)	Apr-Sept	1943	86	2562	2252
		Apr-July	1612	86	2148	1863
2145	Billings (at)	Apr-Sept	3592	84	4577	4261
		Apr-July	3085	84	3854	3657
3090	Miles City (at)(12)	Apr-Sept	5673	84	7114	6721
		Apr-July	4968	84	6170	5883
3295	Sidney (near)(12)	Apr-Sept	5860	85	8124	6921
		Apr-July	5166	84	7190	6137
	SHIELDS RIVER					
1935	Clyde Park (at)	Apr-Sept	95.0	86	85.9	111
		Apr-July	88.8	86	77.4	103
	STILLWATER RIVER					
2050	Absarokee (near)(11)	Apr-Sept	545	88	637	620
		Apr-July	461	88	519	523
	CLARKS FORK RIVER					
2075	Chance (at)	Apr-Sept	506	82	622	617
		Apr-July	457	83	558	552
2085	Edgar (at)	Apr-Sept	526	81	678	652
		Apr-July	469	82	585	575
	ROCK CREEK					
2095	Red Lodge (near)	Apr-Sept	97.5	87	107	112
		Apr-July	74.5	87	82.8	86.3

(11) Corrected for storage in Mystic Lake.
(12) Corrected for storage in Buffalo Bill and Boysen Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
2040	Mystic Lake	20.8	8.6	7.4	8.6
2120	Cooney	27.5		15.1	9.1

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10C5	Bald Ridge	7500	2/26	33	9.5	9.9	-
9D1	Camp Senia	7890	3/4	22	4.7	7.9	5.5*
10E3	Canyon	7500	2/28	42	10.2	16.3	13.8*
10D5	Crevice Mountain	8400	3/1	34	7.1	8.5	8.2
10D4	Devil's Slide	8100	3/2	72	19.8	21.8	16.3
10E6	East Entrance	7000	2/28	36	8.0	8.9	10.8*
9D3	Gertrude Lake	9250	3/4	41	10.4	14.8	-
9D5	Grizzly Peak	8400	2/28	45	12.8	22.2	-
10D6	Independence	8000	2/25	47	13.8	18.4	13.7*
10E4	Lake Camp #2	7850	2/27	23	4.4	12.0	10.0
9E1	Lodgepole	8200	3/1	37	8.7	9.7	10.6*
10E1	Lupine Creek	7300	2/27	25	5.4	12.4	9.4*
10D12	Monument Peak	9000	2/25	58	14.9	25.6	-
10E2	Norris Basin	7500	2/27	33	8.1	9.9	9.3*
10D7	Northeast Entrance (Cooke City)	7400	2/28	30	7.4	8.1	7.8
10C3	Porcupine R. S.	6500	2/26	22	5.8	8.0	5.9
10D10	Sacajawea	6550	3/4	44	12.4	11.2	-
10E5	Sylvan Pass	7100	2/28	38	8.7	10.5	13.4*
10E7	Thumb Divide	7900	2/27	48	12.8	24.5	21.4*
9D4	Timberline Creek	8850	3/4	38	9.8	18.0	-
9D2	West Rosebud	7500		No Report		10.4	-

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10D11M	Battle Ridge	6020	48	15.4	2/27	13.8	14.3	-
10D13M	Northeast Entrance	7350	48	9.4	3/2	7.1	-	-
10C4M	Shields River	5850	48	17.8	2/27	15.3	12.1	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MILK RIVER BASIN
MONTANA

AS OF:

MARCH 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is Fair. The March-September forecast flow for the Milk River at Eastern Crossing is 186,000 acre feet. Combined with the storage in Fresno Reservoir, this provides about 229,000 acre feet available for irrigation. The 1943-57 average flow is 255,000 acre feet and the average storage of Fresno on March 1 is 64,100 acre feet, which provides an average supply of about 319,000 acre feet. Water available for irrigation this season will be about 72 percent of average.

Snow surveys made near the first of March on the Milk River drainage in Montana indicate the snow pack is 80 percent of average and 62 percent of the 1943-57 average.

Snow surveys made in the Cypress Hills in Canada indicate this year's snow pack is 127 percent of last year and 55 percent average.

Report Prepared By:

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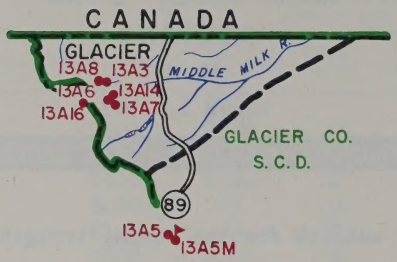
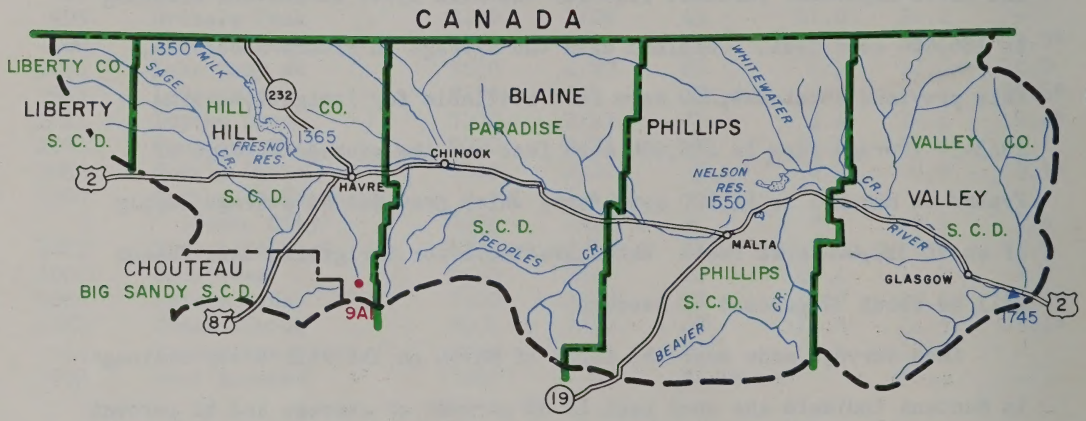
Data included in this report were obtained in cooperation with other Federal, State and private organizations.

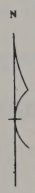
THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

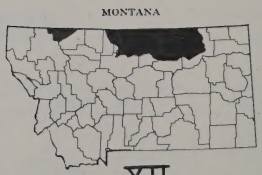




LEGEND

13E2	SNOW SURVEY COURSE
12D2M	SOIL MOISTURE STATION
13B3A	AERIAL MARKER AT SNOW COURSE
0125	STREAM GAGING STATION
	DRAINAGE
	S. C. D. BOUNDARY
	WATERSHED BOUNDARY
	HIGHWAY
	TOWN
	COUNTY BOUNDARY
	STATE BOUNDARY





XII

SCALE 10 0 10 20 30 40 50 MILES

USDA-SCS-LINCOLN, NEBR 1962

5,L-18,93

WATER SUPPLY FORECASTS

WATERSHED XII

AS OF MARCH 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MILK RIVER					
1350	Eastern Crossing (at)	Mar-Sept	186	73		255

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF FEBRUARY 28, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
1365	Fresno	127.2	43.4	17.3	64.1
1550	Nelson	66.8	44.4	15.2	34.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

WATERSHED XII

SNOW SURVEY DATA

AS OF MARCH 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13A5	Marias Pass	5250	2/27	30	9.5	13.4	17.4
13A16	Mineral Creek	4000	2/28	36	10.6	15.1	20.4*
9A1	Rocky Boy	5200	3/1	24	6.2	4.4	4.8
	CYPRESS HILLS - CANADA						
10AA2	Cress Day B	3450	3/4	2	0.8	0.4	1.8*
9AA1	Cypress Park C	4000	3/4	9	3.4	2.2	5.2*
10AA1	Elkwater Lake A	4100	3/4	8	1.9	0.8	2.7*
7AA1	Val Marie D	2700	3/5	0	0.0	1.4	1.5*

SOIL MOISTURE DATA

AS OF MARCH 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A5M	Marias Pass	5250	54	6.5	2/27	6.0	5.6	5.3

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD